WHAT IS CLAIMED:

1. A wireless receiver comprising:

a receiver for receiving a wireless signal; and

a demodulator for generating a log-likelihood ratio as a function of a scale factor;

wherein the scale factor is a function of a ratio between energy components of the wireless signal.

2. The wireless receiver of claim 1 further comprising a processor for determining the scale factor as a function of the ratio between energy components of the wireless signal.

3. The wireless receiver of claim 2 wherein the scale factor is determined independently of relative strengths and number of multipaths in the received wireless signal.

4. The wireless receiver of claim 1 further comprising a processor for determining the scale factor as a function of the ratio between energy components of the wireless signal, a noise variance in received data symbols of the received wireless signal, and a noise variance in received pilot symbols of the received wireless signal.

5. The wireless receiver of claim 4 wherein the scale factor is determined independently of relative strengths and number of multipaths in the received wireless signal.

6. The wireless receiver of claim 1 further comprising a memory for storing a look-up table such that an index into the look-up table for retrieving the scale factor is a function of the ratio between energy components of the wireless signal.

7. The wireless receiver of claim 6 wherein the function is a square root of the ratio between energy components of the wireless signal.

8. The wireless receiver of claim 1 wherein the received wireless signal comprises

pilot symbols and data symbols and the ratio between energy components is a ratio between a transmitted energy per pilot symbol to a transmitted energy per data symbol.

9. The wireless receiver of claim 1 wherein the receiver comprises a demultiplexer for providing a data signal, representing data symbols, and a control signal, representing pilot symbols, and wherein the ratio between energy components is a ratio between the energy per pilot symbol to the energy per data symbol.

10. The wireless receiver of claim 9 wherein the receiver comprises a control signal detector for recovering from the control signal a value for the ratio between the energy per pilot symbol to the energy per data symbol.

11. A wireless receiver comprising:

a memory for storing a look-up table, such that an index into the look-up table for retrieving a scale factor is a function of a ratio of energy components of a wireless signal; and

a decoder, responsive to a signal modified by the retrieved scale factor, for decoding a received form of the wireless signal.

12. The wireless receiver of claim 11 wherein the signal is a log-likelihood ratio.

13. The wireless receiver of claim 11 wherein the function is a square root of the ratio between energy components of the wireless signal.

14. The wireless receiver of claim 11 wherein the received form of the wireless signal comprises pilot symbols and data symbols and the ratio between energy components is a ratio between a transmitted energy per pilot symbol to a transmitted energy per data symbol.

15. The wireless receiver of claim 11 wherein values of the look-up table are determined independently of relative strengths and number of multipaths in the received form of the wireless signal.

16. The wireless receiver of claim 11 further comprising a control signal detector for recovering from the received form of the wireless signal a value for the ratio between the energy per pilot symbol to the energy per data symbol.

17. A wireless receiver comprising:

a memory for storing a look-up table, wherein one column of the look-up table comprises values that are a function of a ratio of energy components of a wireless signal, and a second column of the look-up table provides associated values of a scale factor; and

a demodulator, responsive to retrieved values of the scale factor, for demodulating a received form of the wireless signal.

18. The wireless receiver of claim 17 wherein the demodulator generates a log-likelihood ratio as a function of the scale factor.

19. The wireless receiver of claim 17 wherein the function is a square root of the ratio between energy components of the wireless signal.

20. The wireless receiver of claim 17 wherein the received signal comprises pilot symbols and data symbols and the ratio between energy components is a ratio between a transmitted energy per pilot symbol to a transmitted energy per data symbol.

21. The wireless receiver of claim 17 wherein values of the look-up table are determined independently of relative strengths and number of multipaths in the received form of the wireless signal.

22. The wireless receiver of claim 17 further comprising a channel estimator for providing a value representative of the ratio between energy components for use by the memory.

23. The wireless receiver of claim 17 further comprising a control signal detector for recovering from the received form of the wireless signal a value for the ratio between the energy per pilot symbol to the energy per data symbol for use by the memory.

24. A wireless receiver comprising:

a demodulator for demodulating a received signal; and

a processor for determining a scale factor as a function of a ratio of energy components of a wireless signal, and for providing the determined scale factor to the demodulator for use in demodulating a received form of the wireless signal.

25. The wireless receiver of claim 24 wherein the demodulator generates a log-likelihood ratio as a function of the scale factor.

26. The wireless receiver of claim 24 wherein the received form of the wireless signal comprises pilot symbols and data symbols and the ratio between energy components is a ratio between a transmitted energy per pilot symbol to a transmitted energy per data symbol.

27. The wireless receiver of claim 24 wherein the scale factor is determined independently of relative strengths and number of multipaths in the received wireless signal.

28. The wireless receiver of claim 24 wherein the processor determines the scale factor as a function of the ratio between energy components of the wireless signal, a noise variance in received data symbols of the received form of the wireless signal, and a noise variance in received pilot symbols of the received form of the wireless signal.

29. The wireless receiver of claim 24 wherein the scale factor is determined independently of relative strengths and number of multipaths in the received wireless signal.